KLEINFELDER
Bright People. Right Solutions.

March 9, 2011
File No.: 116081-4.3

Todd Del Frate
CVRWQCB-Sacramento
11020 Sun Center Drive, #200
Rancho Cordova, CA 95670

Re: Dellar Landfill Assessment Report
Sacramento, California

Dear Todd:

We have completed a substantial portion of the assessment work at the Dellar Landfill property discussed during our last meeting on January 27, 2011. During the meeting, an outline of proposed field activities was discussed (Appendix A) and the general approach was viewed favorably by Board staff in attendance with the exception of the Existing Cap Condition Assessment. This scope item was removed from the investigation and replaced with an edge of waste assessment.

In a schedule provided to you on January 13, 2011, Dellar Landfill committed to providing a report on this assessment work on March 9, 2011. We are submitting this report in compliance with the schedule. Work on the geotechnical investigation is not yet completed; therefore, it will be provided to you in a separate submittal on March 25, 2011.

Elderberry Dripline Assessment

On January 20, 2011, nine shallow test pits (TP-1 through TP-9) were excavated at the Dellar property to assess potential chemical impacts to the soil in the vicinity of the Elderberry bushes on site. Test pits were excavated to a total depth of 2 feet below ground surface (bgs). Locations of Elderberry trees and test pits are presented on Plate 1.

During excavation, a California Licensed Professional Geologist logged the soils and noted waste/debris encountered in each pit. A summary of the soil types, observations, and debris encountered is presented in Table 1.

A soil sample was collected from each of the nine test pits and submitted to an analytical laboratory for analysis.

3077 Fite Circle, Sacramento, CA 95827-1815 p | 916.366.1701 f | 916.366.7013

Laboratory Analysis

Soil samples were initially analyzed for the following constituents:

- CAM-17 Metals by EPA 6000/7000
- Organochlorine pesticides by EPA 8081A
- Semi-volatile organic chemicals by EPA 8270
- Total recoverable hydrocarbons (TPH extractable and purgeable by EPA 8015M)
- Polychlorinated biphenyls by EPA 8082
- Dioxins/furans (2,3,7,8-TCDD) by EPA 8280

After initial analytical results were received and reviewed, samples EB-4-2, EB-5-1 and EB-6-1 were found to contain the highest concentrations of lead, at 470 milligrams per kilogram (mg/kg), 470 mg/kg and 220 mg/kg, respectively. These samples were analyzed for the following constituents:

- Soluble metals using the DI-WET extraction
- Soluble metals using the WET extraction
- Soluble hexavalent chromium

Analytical Results

Analytical results for soil samples are summarized in Tables 2, 3, and 4. Results were compared to the San Francisco Bay Regional Water Quality Control Board (SFBRWQCB.. Environmental Screening Levels (ESLs) for commercial land use and additional analysis were compared to the California Code of Regulations (CCR) Title 22, Division 4.5, Chapter 11, Article 3, Section 66261.24 "Soluble Threshold Limit Concentrations" (STLC). Exceedences are shown in red in Tables 2 through 4. Results are summarized below.

Metals

- Arsenic was detected above the ESL of 1.6 mg/kg in the nine samples, at concentrations ranging from 5.1 mg/kg in sample EB-1-1 to 12 mg/kg in samples EB-3-1.
- Antimony, barium, beryllium, cadmium, chromium, cobalt, copper, lead, molybdenum, nickel, vanadium, zinc, and mercury were detected in some samples; the detected concentrations were below their respective ESLs.

Organochlorine Pesticides

- DDD and DDE were detected in some samples; the detected concentrations were below their respective ESLs.

KLEINFELDER 3077 Fite Circle, Sacramento, CA 95827-1815 p | 916.366.1701 f | 916.366.7013

Total Recoverable Hydrocarbons

- Motor oil was detected in the nine samples; the detected concentrations were below the ESL.

Polychlorinated Biphenyls

- Aroclor 1260 was detected in some samples; the detected concentrations were below the ESL.

Dioxins/furans

- 2,3,7,8-TCDD was detected in some samples; the detected concentrations were below the ESL.

Semi-Volatile Organic Chemicals

- Bis (2-ethylhexyl) phthalate, chrysene, and fluoranthene were detected in some samples; the detected concentrations were below their respective ESLs.

WET and DI-WET Extractions

- Soluble lead by WET analysis was detected above the STLC of 5.0 mg/L in the three samples analyzed at concentrations ranging from 15 mg/L in sample EB-6-1 to 45 mg/L in sample EB-5-1.
- Cadmium, chromium, nickel, and zinc by WET analysis were detected in the three samples analyzed in concentrations below their respective STLCs.
- Cadmium, chromium, nickel, lead, and zinc by DI-WET analysis were detected in some samples in concentrations below their respective STLCs.
- Hexavalent chromium by DI-WET analysis was detected in some samples in concentrations below their respective STLCs.

Discussion

Nature and Extent of Debris

Materials excavated from the test pits consisted predominately of soil, with minimal debris, as indicated in Table 1. No putrescible waste was observed; therefore, the debris encountered is not expected to change over time. The area within the Elderberry bush driplines is approximately 1% of the total cap area, so the proposed approach to capping (leaving existing soil within driplines) will only affect a small fraction of the entire final cap.

KLEINFELDER 3077 Fite Circle, Sacramento, CA 95827-1815 p | 916.366.1701 f | 916.366.7013

Metals

With the exception of arsenic, metal concentrations in soil samples were below their respective ESLs for shallow soil at commercial land use sites. Arsenic was detected above the ESL of 1.6 mg/kg in nine samples at concentrations ranging from 5.1 mg/kg to 12 mg/kg. While these concentrations exceeded the ESL, they are consistent with reports of naturally occurring concentrations of arsenic in California (Bradford et al., 1996). In addition, according to the Department of Toxic Substances Control, if soil arsenic concentrations are less than or equal to 12 mg/kg, arsenic can be eliminated as a chemical of potential concern (Chernoff et al.).

The three samples with the highest reported concentrations of total lead (EB-4-2, EB-5-1, and EB-6-1) were further analyzed for five soluble metals (cadmium, chromium, nickel, lead and zinc) using the California WET and DI-WET methods. With the exception of lead detections using the WET test, soluble concentrations were below each metal's respective STLC under Title 22 of the CCR.

Total lead was detected in samples EB-4-2, EB-5-1, and EB-6-1 at concentrations of 470 mg/kg, 470 mg/kg and 220 mg/kg, respectively. Soluble lead (WET extraction) was detected in the three samples (EB-4-2, EB-5-1 and EB-6-), at concentrations of 24 mg/L, 45 mg/L and 15 mg/L, respectively. The WET STLC for lead is 5.0 mg/L. Lead-impacted soil that will be transported to a landfill for disposal with concentrations greater than 1,000 mg/kg "total" lead or 5.0 mg/L "soluble" lead (as analyzed by the California WET method) is classified as hazardous waste. However, since the Dellar Landfill soil is not going to be excavated or transported to a landfill, these regulatory thresholds are not pertinent. We also evaluated the solubility of lead using the DI-WET method which is suitable for assessing the solubility of in-situ soils for potential impact to surface water and groundwater. DI-WET soluble lead was detected in one of the samples, EB-4-2, at a concentration of 400 micrograms per liter (ug/L) indicating that the lead has a low solubility and is not expected to migrate at high concentrations during rainstorms. Based on the results of the total and DI-WET analysis, lead in soil does not appear to pose a threat to surface water or groundwater at the site.

Organics

With the exception of low level detections of DDD and DDE in two samples, organochlorine pesticides were not detected in the nine samples. The shallow soil, commercial land use ESLs for DDD and DDE are 1,000 micrograms per kilogram (ug/kg) and 4,000 ug/kg, respectively. DDD was detected in sample EB-5-1 collected from TP-5 at a concentration of 18J ug/kg (the "J" indicates that the result is an estimated concentration since it fell below the laboratory reporting limit). DDE was detected in two samples, EB-4-2 and EB-5-1, at concentrations of 19 ug/kg and 66 ug/kg, respectively. These two results were also J flagged. The DDD and DDE detections are below their respective ESLs.

KLEINFELDER 3077 Fite Circle, Sacramento, CA 95827-1815 p | 916.366.1701 f | 916.366.7013

Edge of Waste Assessment

On February 1, 2011, 28 additional shallow test pits (WA-1 through WA-25, four pits at WA-13) were excavated along the west and south edges of waste to assess the presence and location of the waste edge (extent). At location WA-13, four pits were excavated due to excessive waste and concrete debris. Test pits were excavated to a total depth of 2 feet bgs. Waste assessment test pit locations are presented on Plate 1. A summary of the debris encountered is presented in Table 5.

Debris was encountered at the ground surface at 21 test pits (WA-1 through WA-20 and WA-22) at depths ranging from 1 to 2 feet. (Note: due to the similarity in results at each of the four test pits excavated for WA-13, one result is presented in Table 5.)

The debris is extensive and in several areas deeper than two feet thick. Therefore, the final cover will be extended over these areas.

Proposed Approach to Closure and Postclosure

Closure

Testing of soils beneath the Elderberry bushes indicates that leaving this soil in-place without additional cover soil is not expected to pose a threat to surface water or groundwater. Therefore, we therefore propose to close the landfill in a manner that will preserve the Elderberry bushes. The design contours in red on Plate 1 shows the proposed approach to grading in the vicinity of the Elderberry bushes. The soil within the driplines of the plants will remain undisturbed but soil outside of the driplines will be clean soil, with a minimum thickness of 2 feet. The final cover will have a slope of 3%, although there may be some areas in the vicinity of the Elderberry bushes with slopes of 1% to 2%. Dellar Landfill understands that these small areas with flatter slopes will run a greater chance of developing ponding and acknowledges their responsibility to promptly correct such problems as a part of postclosure. Understand that this condition will be temporary. We fully expect the Elderberry Beetle to be delisted by the Federal Environmental Protection Agency (EPA) in the future. When this occurs, the Elderberry bushes will be removed and the area regraded to a 3% slope (see Postclosure section).

Since debris was encountered outside of the footprint of the final cover envisioned by the City of Sacramento, the new design will increase the footprint to cover these areas.

Postclosure

Yearly maintenance inspections will be conducted to assess the condition of the final cover. One inspection will occur in September, prior to winter rains. The purpose of this inspection is to make sure the landfill is prepared for the rainy season. Eroded areas or areas devoid of vegetative cover will be stabilized with erosion control materials and reseeded. Pumps for the detention basins will be tested for functioning. A second inspection will occur either during or immediately after a major storm event.

KLEINFELDER 3077 Fite Circle, Sacramento, CA 95827-1815 p | 916.366.1701 f | 916.366.7013

The purpose of this inspection is to check for localized ponding. If ponding is encountered, it will be corrected within 30 days.

As mentioned earlier, the Elderberry bushes will be removed as soon as the Elderberry Beetle is delisted by the Federal EPA. While we are fairly confident that the delisting will occur in the immediate future, we do not have a firm date for when this will occur. Once the bushes are removed, clean soil will be imported to fill the localized areas with slopes of less than 3%. After filling and regrading, these areas will have a minimum slope of 3%,

Please contact me if you have any questions or require additional information. This report is subject to the limitations in Appendix B.

Sincerely,

KLEINFELDER WEST, INC.

Timothy Crandall, P.E.
Principal Engineer

TAC:aak

Plates
1 Sample Location Map

Tables
1 Summary of Elderberry Dripline Assessment Observations
2 Summary of Detected Analytical Results for Soil - CAM 17 Metals
3 Summary of Detected Analytical Results for Soil - WET and DI-WET Analyses
4 Summary of Detected Analytical Results for Soil - Remaining Analyses
5 Edge of Waste Assessment Observations

Appendices
A January 25, 2011 Field Investigation Letter
B Limitations

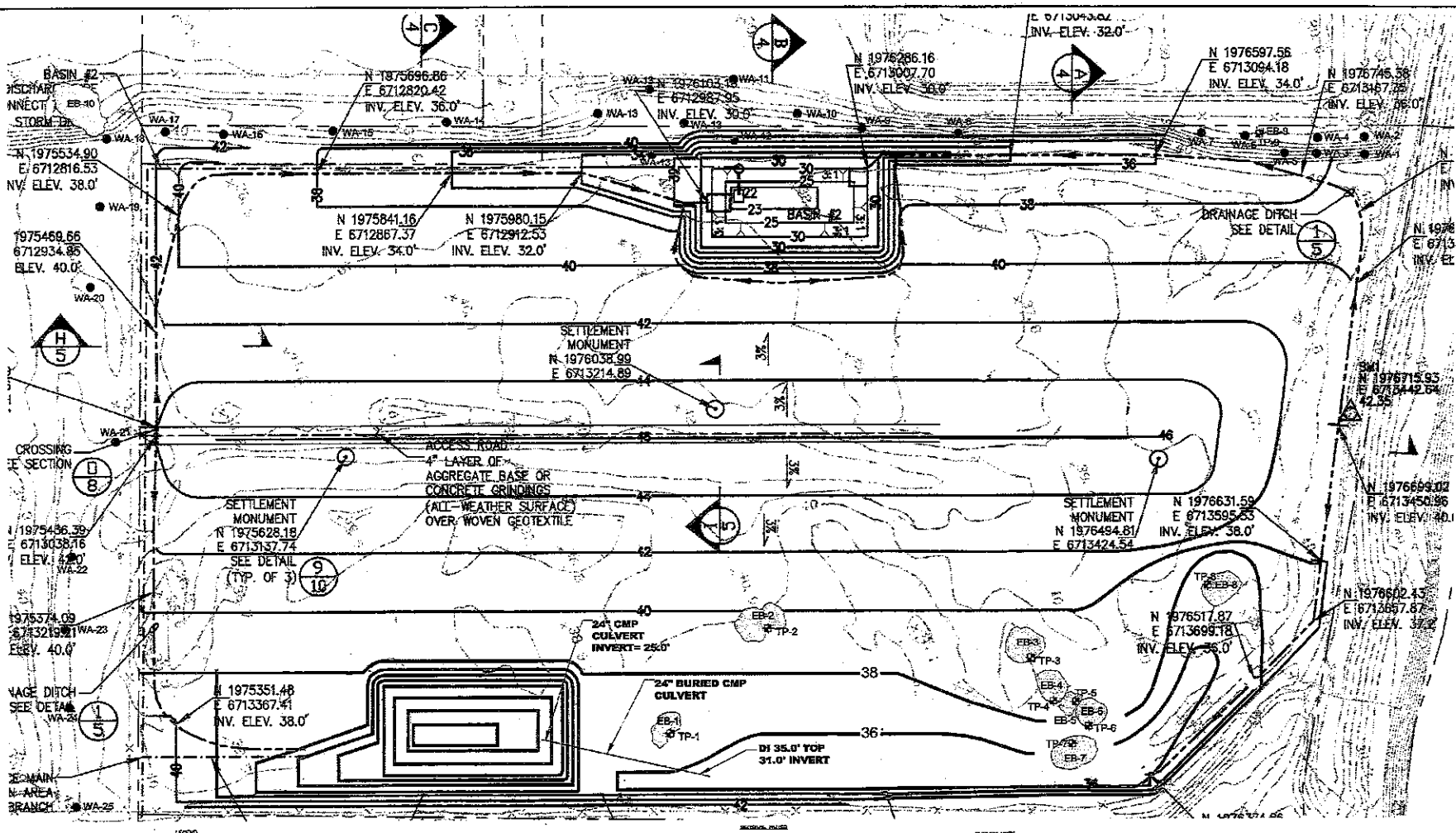
KLEINFELDER 3077 Fite Circle, Sacramento, CA 95827-1815 p | 916.366.1701 f | 916.366.7013

References

Bradford, GR, Chang AC, Page AL, Bakhtar D, Frampton JA, Wright H. 1996. Background Concentrations of Trace Metals and Major Elements in California Soils, Kearney Foundation of Soil Science, Division of Agriculture and Natural Resources, University of California, March 1996.

Chernoff, G. et al., Undated, Determination of a Southern California Regional Background Arsenic Concentration in Soil, Department of Toxic substances Control.

KLEINFELDER 3077 Fite Circle, Sacramento, CA 95827-1815 p | 916.366.1701 f | 916.366.7013



LEGEND

PROPERTY BOUNDARY
PROPOSED FINAL GRADES
EXISTING CONTOUR
EXISTING SPOT ELEVATION
EXISTING POWER POLE
EXISTING CONTROL POINT
EXISTING MONUMENT WELL
EXISTING TOWER ANCHOR
EXISTING POLE
EXISTING FENCE
V-DITCH AND DRAINAGE DIRECTION
UNDERGROUND BASIN DISCHARGE PIPE
PERMANENT SETTLEMENT MONUMENT
PROPOSED FENCE

CONCEPTUAL FINAL COVER RECONFIGURATION LEGEND

EB-8 Elderberry Plant Location and Identifier
TP-1 Test Pit Location and Identifier (January 20, 2011)
WA-1 Test Pit Location and Identifier (February 1, 2011)
Changed Contour Line

1. RADIO TOWER POWER LINE SHALL BE PRESERVED DURING CONSTRUCTION AND RESET AT THE PROPER SEPERATION DISTANCE BETWEEN THE DESIGN GRADE AND BOTTOM OF THE CONDUCTOR, PER FCC REQUIREMENTS. AFTER GRADING IS COMPLETED, ANCHORS/FOOTINGS SHALL REMAIN REPLACE AND BE PROTECTED FROM SOIL FILL AS DIRECTED BY THE ENGINEER.
2. CONTRACTOR MUST COORDINATE WITH RADIO TOWER OWNER PRIOR TO DE-ENERGIZING THE POWER LINE TO RESET THE LINE ELEVATION.
3. RADIO TOWER DRAIN PIPE SHALL BE PLACED PRIOR TO COVER OPERATIONS TO REDUCE TRENCHING WORK.
4. DISCHARGE FROM BASIN #61 BE CONVEYED TO THE CITY'S STORM DRAIN MANHOLE (MH #68) VIA AN UNDERGROUND PIPE. MANHOLE #68 IS LOCATED AT THE INTERSECTION OF A STREET AND 28TH STREET.

SURVEY NOTE

THE BASE TOPOGRAPHIC MAP USED FOR THIS WORK WAS PROVIDED TO MCKAY-MARTIN-SELF BY HARDING LAWSON ASSOCIATES IN ELECTRONIC FILE MEDIA. THE MAP WAS PREPARED BY TOPOGRAPHIC SURVEYS, INC. FOR THE CITY OF SACRAMENTO. DATE OF AERIAL PHOTOGRAPHY WAS JUNE 23, 1995. THE BASIS FOR HORIZONTAL AND VERTICAL CONTROL IS UNKNOWN.

SOURCE: Drawing 3, 29-Acre Final Landfill Closure, Dellar Property, Sacramento, CA Revision 2/28/2010, SCS Engineers

KLEINFELDER
Bright People. Right Solutions.
3077 Fite Circle, Suite 9
Sacramento, CA 95827
PH. 916.366.1701 FAX. 916.366.7093

PROJECT NO.	77754
DRAWN:	03/09/2011
DRAWN BY:	D. Ross
CHECKED BY:	T. Crandell
FILE NAME:	77754_A.dwg

SAMPLE LOCATION MAP

DELLAR LANDFILL
SACRAMENTO, CALIFORNIA

PLATE 1

Table 1
Summary of Elderberry Dripline Assessment Observations
Dellar Property
Sacramento County, California
Kleinfelder Project Number: 77754

Observation Date: January 20, 2011																				
Test Pit Name	TP-1		TP-2		TP-3		TP-4		TP-5		TP-6		TP-7		TP-8		TP-9	
Predominance of Debris	Predominantly soil, Minimum debris.		Predominantly soil, Minimum debris.		Predominantly soil, Minimum debris.		Predominantly soil, Minimum debris.		Predominantly soil, Minimum debris.		Predominantly soil, Minimum debris.		Predominantly soil, Minimum debris.		Predominantly soil, Minimum debris.		Predominantly soil, Minimum debris.	
Depth (feet)	Soil Description	Debris or Observation	Soil Description	Debris or Observation	Soil Description	Debris or Observation	Soil Description	Debris or Observation	Soil Description	Debris or Observation	Soil Description	Debris or Observation	Soil Description	Debris or Observation	Soil Description	Debris or Observation	Soil Description	Debris or Observation
Surface	Grassy		Grassy		Soil with weeds and beer cans.		Grass with debris. Toiletries, food containers.		Barren soil		Bare dirt and grass with broken bottles and plastics.		Grassy		Grass and debris. Food containers, bottles.		Grass and debris. Broken glass and metal.	
0 - 0.5	Dark Brown Silty SAND (SM)	Video tapes. Carpet pieces and broken concrete.	Dark Brown Silty Sand (SM)	Christmas bulbs, clothing, metal spoons, small batteries.	Reddish Brown Silty SAND (SM)	Small pieces of broken glass. Primarily matrix.	Reddish Brown Silty SAND (SM)	Broken china dinnerware, wood debris, bicycle tire.	Reddish Brown Silty SAND (SM)	Burnt appearance. Plastic cups, broken bottles.	Dark Red Silty SAND (SM)	Minor pieces of broken glass, metal, plastic, paper	Dark Brown Silty Sand (SM)	Some cans and bottles.	Dark Brown SILT with Sand (ML)	Metal washers, bolts, plastic bottles and food containers.	Red Brown SILT with fine sand (ML)	Plastic pipes, bolts, coat hangers, clothing bits, tiles, aluminum foil.
0.5 - 1		Broken bits of plastic.				Small roots, approximately 1/8" diameter.		Debris not observed.		Small roots, approximately 1/8" diameter.				Debris not observed.			Red Brown SILT with fine sand (ML). Trace organic matter.	Debris not observed.
1 - 1.5	Dark Reddish Brown Silty SAND (SM)	Blackened soil interbedded, appears burned. Slight organic or burned odor.	Red Poorly Graded SAND with silt (SP-SM)	Blackened soil interbedded, appears burned. Slight organic or burned odor.		Debris not observed.			Brown Silty SAND (SM)						Brown Silty SAND - SILT with Sand (SM-ML)	Debris not observed.		
1.5 - 2		Debris not observed.	Brown Silty SAND (SM)	Debris not observed.			Dark Reddish Brown Silty SAND with Gravel (SM)	Blackened pebbles, burnt appearance. Beer cans.			Brown Poorly Graded SAND with silt (SP-SM)	Debris not observed.	Brown silty SAND (SM)	Small roots, approximately 1/8" diameter.				

Predominantly soil, minimum debris.
Debris up to 50% of mass.
Debris 50% or above

Table 2
Summary of Detected Analytical Results for Soil - CAM 17 Metals
Dellar Property
Sacramento County, California
Kleinfelder Project Number: 77754

Sample Location	Sample ID	Sample Date	Sample Depth (feet)	CAM 17 Metals (mg/kg)														
				Arsenic	Antimony	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper	Lead	Molybdenum	Nickel	Silver	Vanadium	Zinc	Mercury
San Francisco Bay Regional Water Quality Control Board Environmental Screening Levels (ESLs) for commercial sites, May 2008 Revision.				1.6	40	1,500	8.0	7.4	750*	80	230	750	40	150	40	200	600	10
TP-1	EB-1-1	1/20/2011	1	5.1	ND(2.0)	150	0.34 J	0.77	40	9.3	70	190	2.2	33	0.64	40	180	0.18
TP-2	EB-2-1	1/20/2011	1	7.0	ND(2.0)	150	0.32 J	0.86	34	8.9	35	210	1.7	36	0.55	35	160	ND(0.10)
TP-3	EB-3-1	1/20/2011	1	12	ND(2.0)	110	0.23 J	0.93	28	5.6	29	130	1.2	25	0.59	28	130	0.12
TP-4	EB-4-2	1/20/2011	2	8.1	ND(2.0)	140	0.17 J	2.10	28	4.9	110	470	1.5	22	1.4	21	430	0.35
TP-5	EB-5-1	1/20/2011	1	7.7	3.1	240	0.30 J	1.10	36	8.3	59	470	1.6	33	0.81	37	410	0.52
TP-6	EB-6-1	1/20/2011	1	6.3	2.2 J	130	0.28 J	1.20	35	7.7	31	220	1.9	30	0.92	33	160	0.32
TP-7	EB-7-1	1/20/2011	1	6.7	ND(2.0)	74	0.26 J	2.40	35	8.0	24	50	1.8	29	1.5	38	77	0.35
TP-8	EB-8-1	1/20/2011	1	8.1	2.4 J	100	0.27 J	1.30	38	8.7	37	62	2.8	31	2.4	39	160	0.31
TP-9	EB-9-1	1/20/2011	1	7.5	ND(2.0)	120	0.37 J	0.60	43	11	36	46	2.3	43	0.87	46	290	0.14

Notes:
Red values exceed commercial ESLs.
mg/kg: Milligrams per kilogram (parts per million)
ND(MDL): Not detected at or above laboratory reporting limit. Method Detection Limit (MDL) shown in parentheses.
*: ESL based on Chromium III
J: Detected concentration but below the reporting limit, result is an estimated concentration.

Table 3
Summary of Detected Analytical Results for Soil - WET and DI WET Analyses
Dellar Property
Sacramento County, California
Kleinfelder Project Number: 77754

Sample Location	Sample ID	Sample Date	Sample Depth (feet)	WET Analysis (mg/L)					DI WET Analysis (ug/L)					Hexavalent Chromium (ug/L)	
				Cadmium	Chromium	Nickel	Lead	Zinc	Cadmium	Chromium	Nickel	Lead	Zinc	WET	DI WET
California Code of Regulations (CCR) Title 22, Division 4.5, Chapter 11, Article 3, Section 66261.24 Soluble Threshold Limit Concentrations (STLC).				**1.0**	**5**	**20**	**5.0**	**250**	**1,000** 1.0	**5,000** 5.0	**20,000** 20	**5,000** 5.0	**250,000** 250	**5,000** 5.0	**5,000** 5.0
TP-4	EB-4-2	1/20/2011	2	0.11	0.51	0.81	**24**	46	2.9 J	0.028	0.077	400	9,000	ND	ND
TP-5	EB-5-1	1/20/2011	1	0.079 J	0.36 J	0.41 J	**45**	29	ND(2.8)	ND(9.9)	ND(14)	ND(36)	62	ND	1.0
TP-6	EB-6-1	1/20/2011	1	0.0040 J	0.39 J	0.38 J	**15**	9.8	ND(2.8)	ND(9.9)	ND(14)	ND(36)	21	ND	0.77

Notes:
Red values exceed STLC.
ug/L Micrograms per liter (parts per billion).
mg/L: Milligrams per liter (parts per million).
ND(MDL): Not detected at or above laboratory reporting limit. Method Detection Limit (MDL) shown in parentheses.
ND: Not detected at or above laboratory reporting limit(s).
J: Detected concentration but below the reporting limit, result is an estimated concentration.

Table 4
Summary of Detected Analytical Results for Soil - Remaining Analyses
Dellar Property
Sacramento County, California
Kleinfelder Project Number: 77754

Sample Location	Sample ID	Sample Date	Sample Depth (feet)	Organochlorine Pesticides (ug/kg)		Extractable Petroleum Hydrocarbons (mg/kg)	Dioxins/ Furans (pg/g)	Polychlorinated Biphenys (ug/kg)	Semivolatile Organic Compounds (ug/kg)		
				DDD	DDE	Motor Oil	(2,3,7,8-TCDD)	Aroclor 1260	Bis (2-ethylhexyl)phthalate	Chrysene	Fluoranthene
San Francisco Bay Regional Water Quality Control Board Environmental Screening Levels (ESLs) for commercial sites, May 2008 Revision.				1,000	4,000	2,500	18	740	120,000	23,000	40,000
TP-1	EB-1-1	1/20/2011	1	ND(2.4)	ND(2.2)	24	4.41	39	ND(140)	ND(180)	ND(190)
TP-2	EB-2-1	1/20/2011	1	ND(2.4)	ND(2.2)	5.5	ND(0.178)	ND(2.1)	ND(140)	ND(180)	ND(190)
TP-3	EB-3-1	1/20/2011	1	ND(2.4)	ND(2.2)	2.5	ND(0.178)	ND(2.1)	ND(140)	ND(180)	ND(190)
TP-4	EB-4-2	1/20/2011	2	ND(2.4)	19 J	11	ND(0.178)	110	ND(140)	ND(180)	ND(190)
TP-5	EB-5-1	1/20/2011	1	18 J	66 J	9.1	ND(0.178)	ND(2.1)	910	200 J	220 J
TP-6	EB-6-1	1/20/2011	1	ND(2.4)	ND(2.2)	6.1	ND(0.178)	26	ND(140)	ND(180)	ND(190)
TP-7	EB-7-1	1/20/2011	1	ND(2.4)	ND(2.2)	8.1	ND(0.178)	54	560	ND(180)	ND(190)
TP-8	EB-8-1	1/20/2011	1	ND(2.4)	ND(2.2)	5.6	ND(0.178)	43	ND(140)	ND(180)	ND(190)
TP-9	EB-9-1	1/20/2011	1	ND(2.4)	ND(2.2)	8.4	ND(0.178)	ND(2.1)	ND(140)	ND(180)	ND(190)

Notes:
mg/kg: Milligrams per kilogram (parts per million)
ug/kg: Micrograms per kilogram (parts per billion)
pg/g Picograms per gram (parts per trillion)
ND(MDL): Not detected at or above laboratory reporting limit. Method Detection Limit (MDL) shown in parentheses.
J: Detected concentration but below the reporting limit, result is an estimated concentration.

Table 5
Edge of Waste Assessment Observations
Dellar Property
Sacramento County, California
Kleinfelder Project Number: 77754

Observation Date: February 1, 2011		Depth (feet)			
		Debris or Observation			
Observation Location ID	Predominance of Debris	0 - 0.5	0.5 - 1.0	1.0 - 1.5	1.5 - 2.0
WA-1		batteries, glass, and concrete in soil		soil	
WA-2		clothing and broken concrete with soil			
WA-3		stuffed toy animal, broken concrete, metal debris with soil		soil	
WA-4		glass bottles, plastic packaging, metal debris with soil			
WA-5		plastic, metal, and concrete debris with soil	soil		
WA-6		clothing, metal, concrete, and broken glass with soil			soil
WA-7		clothing, plastic debris, and metal cans with soil			
WA-8		metal piping, mattresses, and furniture with soil		soil	
WA-9		metal and plastic debris, sleeping bag fibers with soil		soil	
WA-10		homeless camp/trash and soil			soil
WA-11		broken bricks in soil			
WA-12		broken bricks in soil			
WA-13		several homeless camps/debris, large bricks and concrete with soil			
WA-14		broken bile of brick and concrete with soil		soil	
WA-15		large concrete blocks and another large homeless garbage area with soil			
WA-16		homeless debris and soil			soil
WA-17		broken brick and concrete, metal bowls, broken glass in soil			
WA-18		homeless camp and debris in soil		soil	
WA-19		surface is hardened, soil with some asphalt		brick/soil	
WA-20		broken glass, asphalt, and concrete in soil		brick/soil	
WA-21		soil		soil/prick pieces	
WA-22		soil with some asphalt		soil/brick and concrete	
WA-23		soil			soil/brick/concrete
WA-24		soil		soil/brick and concrete	
WA-25		soil		soil/brick and concrete	

Predominantly soil, minimum debris
Debris up to 50% of mass
Debris 50% or above

KLEINFELDER
Bright People. Right Solutions

ATTACHMENT A

January 25, 2011 Field Investigation Letter

KLEINFELDER
Bright People. Right Solutions.

January 25, 2011
File No.: 116081-4.1

Mr. Todd Del Frate
CVRWQCB-Sacramento
11020 Sun Center Drive #200
Rancho Cordova, CA 95670

Re: Dellar Landfill
Sacramento, CA

Dear Mr. Del Frate:

Attached is a field investigation outline for your review in preparation for our meeting on Thursday, January 27, 2011. The outline should give you an idea of what we are thinking relative to field work and should be a good starting point for our meeting. Please contact me if you have any questions or require additional information.

Sincerely,

KLEINFELDER WEST, INC.

Timothy Crandall, P.E.
Principal Engineer

116081/SAC11R025

3077 Fite Circle, Sacramento, CA 95827-1815 p | 916.366.1701 f | 916.366.7013

KLEINFELDER
Bright People. Right Solutions.

Closure Field Investigation Outline
Dellar Landfill
APNs 001-016-0013 and 0039
Sacramento, California
January 25, 2011

1. Background

Dellar Landfill is located adjacent to the American River, north of B Street and between lines projected from 23rd and 25th Streets. The property containing the landfill covers approximately 29 acres. The landfill accepted waste between 1959 and 1963 and has not undergone a formal closure. The Regional Water Quality Control Board (RWQCB) has requested the site undergo a formal closure. Attempts have been made to close the landfill to the satisfaction of the RWQCB, the most recent being a closure plan and design offered by the City of Sacramento. At a meeting on January 6, 2011, with the RWQCB, representatives of the owners (Dellar Trust) of the Dellar property proposed a plan that could achieve closure by the end of 2011. The RWQCB expressed some concerns regarding the plan, asking for additional information to support the proposed plan. This Closure Field Investigation Outline was prepared as a scoping document that would be used as a starting point in discussions between the Dellar Trust and RWQCB staff regarding additional field investigation.

2. Objectives of the Closure Field Investigation

- Provide information on the existing soil cover within the driplines of the Elderberry plants within the footprint of the landfill. The investigation should provide information on the thickness, soil type, debris content, and chemical nature of the existing cover soil.
- Provide information on the existing soil cover across the landfill surface. This information should include soil cover thickness, soil type and debris content.
- Provide information on the waste (type and estimated amount) that would be excavated during construction of two stormwater detention basins.

3. Field Activities

Elderberry Plant Dripline Assessment

1. Advance nine (9) small holes to a depth of 2 feet using a shovel at Elderberry plant locations EB-1 through EB-9 (see Plate 1 for map of plant locations).
2. Prior to advancing each hole, carefully remove vegetation and/or debris from the surface by scraping with a clean, decontaminated shovel or hoe.
3. Record each location with a GPS unit.
4. A geologist will log the soils encountered and record debris (non-soil items).
5. Photograph and sketch each hole showing scale and orientation and approximate placement of debris (if encountered).

6. Collect examples of debris and put in plastic bag. Mark bag with location.
7. Soil Sampling
    a. Collect one soil sample at each location using the following method:
        i. Dig hole to 2 feet below ground surface (bgs) and stockpile soil on the ground near hole for backfilling.
        ii. If clean soil (devoid of staining and/or odor) is encountered, collect sample by using the stainless steel hand trowel to scoop some soil from each side (4 sides) of the trench, from the sidewall at approximately 1 foot bgs. Scoop soil directly into a new plastic baggie. Mix soil thoroughly by kneading in baggie. Pour soil into two 8-oz clean jars provided by the analytical laboratory. Completely fill both jars.
        iii. If staining and/or odor are encountered, collect the suspect soil instead of sidewall soil at 1 foot by scooping with the trowel directly into the baggie. Follow same mixing procedure as in section u, above, and place into two 8-oz jars.
        iv. Label jars with a unique identifier that includes the date, Elderberry Bush ID name and depth of sample (example: EB-1-1 for Elderberry Bush EB-1 at 1 foot bgs). Two jars equal one sample; name both jars with the same identifier.
        v. Place labeled jars into a cooler with ice pending transport to the analytical laboratory.
        vi. Backfill hole with soil from stockpile (after logging by geologist).
8. Soil Sample Analysis

    The nine soil samples will be initially analyzed for the following constituents:

    - CAM-17 Metals by EPA 6000/7000
    - Organochlorine Pesticides by EPA 8081A
    - Semi-volatile organic chemicals by EPA 8270
    - Total recoverable hydrocarbons (TPH extractable and purgeable by EPA 8015M)
    - Polychlorinated Biphenyls by EPA 8082
    - Dioxins/furans (2,3,7,8-TCDD) by EPA 8280

    Following receipt and review of the initial analytical results, the three samples with the highest concentrations of lead will be analyzed for the following constituents:

    - Soluble cadmium, chromium III, chromium VI, nickel, lead and zinc using the WET and DI-WET extraction methods.

Detention Basin Assessment

1. Drill one boring in center of each proposed basin to design grade minus 5 feet to assess for presence of waste (Plate 1).
2. Log cuttings to assess type of waste.
3. If soil/waste interface is found, note depth.
4. Backfill borings with cement grout.

Existing Cap Condition Assessment

1. Excavate 12 backhoe trenches through the existing soil cover to waste at the locations shown on Plate 1.
2. Measure thickness of soil cover, document type and location of debris encountered in existing cover soil.
3. Backfill trenches with excavated materials and wheel roll.

4. Reporting

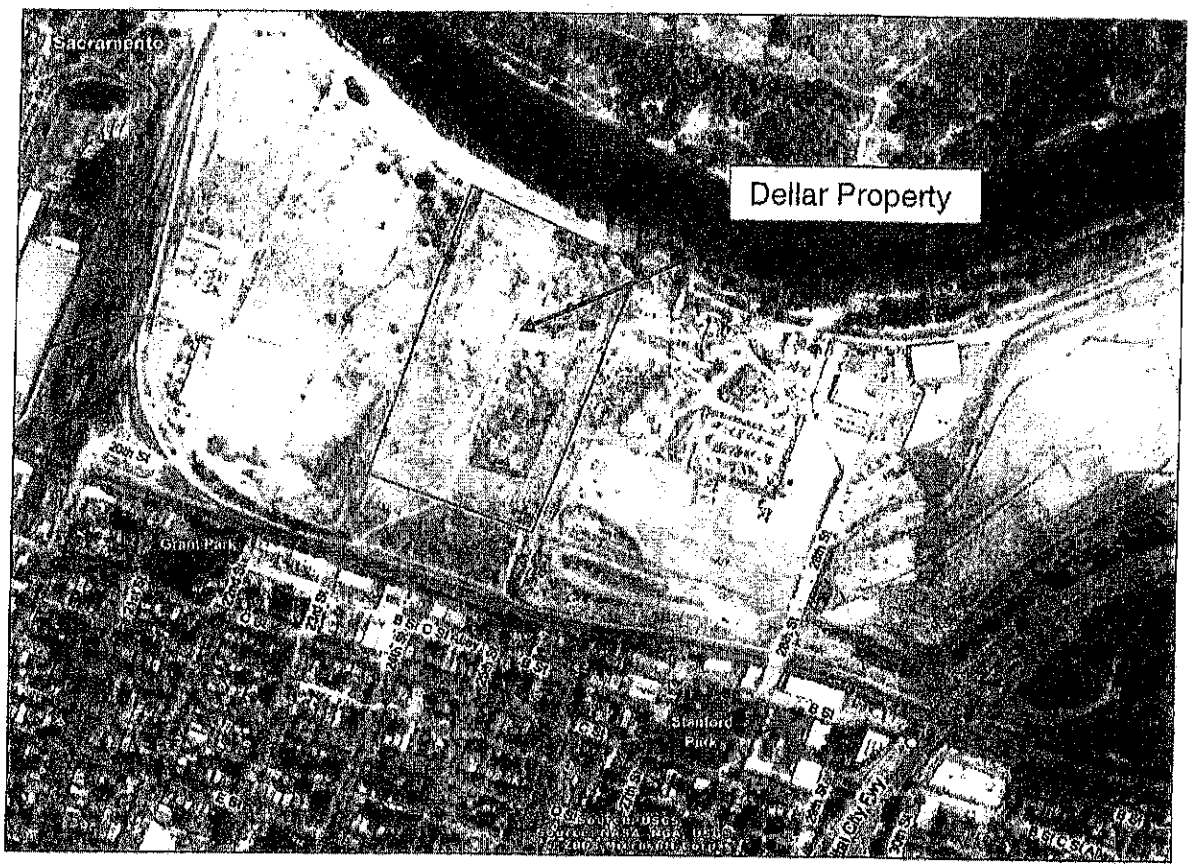
1. Prepare letter report summarizing results of field investigation.
2. Submit to RWQCB on or before 3/9/11.

Attachments:

Health and Safety Plan
Limitations
Plate 1 – Closure Field Investigation

HEALTH AND SAFETY PLAN
DELLAR TRUST PROPERTIES
APNs 001-016-0013 and 0039
SACRAMENTO, CALIFORNIA

Key Individuals:	
Project Manager:	Tim Crandall (916) 366-1701
Site Health and Safety:	Kalen Bjurstrom (916) 825-3082
Preparer:	Sue Gardner, PG (916) 416-4669
Reviewer/Approver:	Tim Crandall (916) 366-2359



Hospital/Clinic:	Sutter General Hospital		
Address:	2801 L Street, Sacramento, CA 95816		
Phone No:	916-454-2222		
Paramedic 911	**Fire Dept.** 911	**Police Dept:** 911	

HEALTH AND SAFETY PLAN
DELLAR TRUST PROPERTIES
APNs 001-016-0013 and 0039
SACRAMENTO, CALIFORNIA

Emergency/Contingency Plans: Stop work, assess situation, call for assistance, apply first aid, transport person to hospital.

15 Min Eyewash: _____	**Fire Extinguisher:** X	**First Aid Kit:** X
Site Control Measures: Warn unauthorized people away from work area. Unauthorized personal are not allowed around work space.		
Personal Decontamination Procedures: Avoid skin, eye and mouth contact with any soil or liquid. Wash hands thoroughly with soap and water before eating/smoking.		

CHEMICAL HAZARDS

Anticipated chemical hazards are petroleum hydrocarbons (TPH diesel), lead, and pesticides (DDD, DDE, DDT, Dieldrin, Endrin) in soil.

PHYSICAL HAZARDS

X	**Heat (Seasonal)**	X	**Slip, Trip, Fall**	X	**Backhoe**
X	**Cold (Seasonal)**	X	**Noise**		**Drill Rig**
X	**Rain (Seasonal)**	X	**Fog (Seasonal)**	X	**Excavations/Trench**
X	**Overhead Hazards**		**Underground Hazards**		

X **Other: There is an active radio station located on the site with generator, towers and guy wires anchored into blocks. Do not enter fenced area around radio facility. Also, possible homeless people and associated debris present on site.**

HEALTH AND SAFETY PLAN
DELLAR TRUST PROPERTIES
APNs 001-016-0013 and 0039
SACRAMENTO, CALIFORNIA

PERSONAL PROTECTIVE EQUIPMENT R = Required A = As Needed

A	Hard Hat	A	Safety Eyewear (Type):
R	Safety Boots		Respirator (Type):
R	Orange Vest		Respirator Filter Type:
A	Hearing Protection	A,R	Gloves (Type): Neoprene, PVC, Nitrile, Work*

- **Chemical resistant gloves (Neoprene, PVC, Nitrile) required for sample collection. Work gloves as-needed for hole excavation and backfilling.**

HEALTH AND SAFETY PLAN
DELLAR TRUST PROPERTIES
APNs 001-016-0013 and 0039
SACRAMENTO, CALIFORNIA

ONSITE SAFETY MEETING ATTENDEES

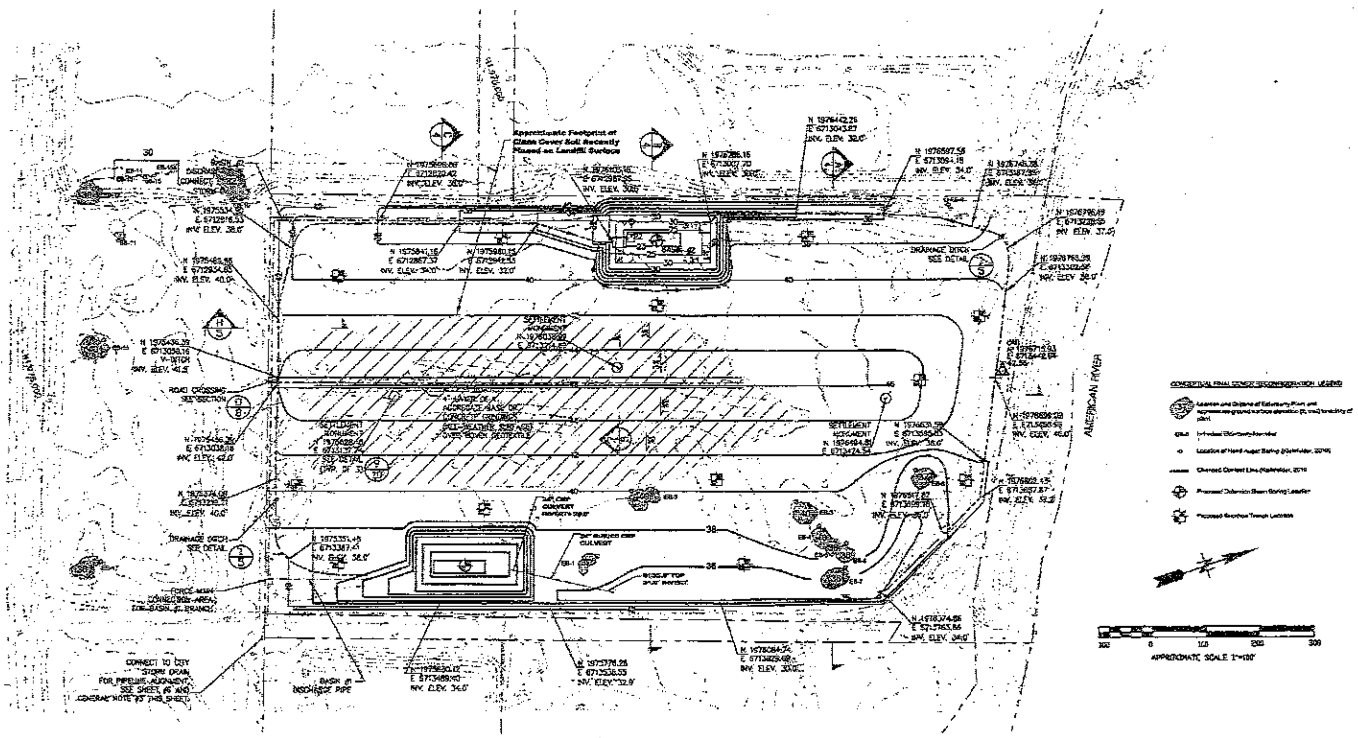
Signature	Name (Printed)/Title	Date

LIMITATIONS

This work was performed in a manner consistent with that level of care and skill ordinarily exercised by other members of Kleinfelder's profession practicing in the same locality, under similar conditions and at the date the services are provided. Our conclusions, opinions and recommendations are based on a limited number of observations and data. It is possible that conditions could vary between or beyond the data evaluated. Kleinfelder makes no other representation, guarantee or warranty, express or implied, regarding the services, communication (oral or written), report, opinion, or instrument of service provided.

This report may be used only by the Client and the registered design professional in responsible charge and only for the purposes stated for this specific engagement within a reasonable time from its issuance, but in no event later than two (2) years from the date of the report.

The work performed was based on project information provided by the Client. If the Client does not retain Kleinfelder to review any plans and specifications, including any revisions or modifications to the plans and specifications, Kleinfelder assumes no responsibility for the suitability of our recommendations. In addition, if there are any changes in the field to the plans and specifications, the Client must obtain written approval from Kleinfelder's engineer that such changes do not affect our recommendations. Failure to do so will vitiate Kleinfelder's recommendations.



GENERAL NOTES

1. RADIO TOWER POWER LINE SHALL BE PRESERVED DURING CONSTRUCTION AND RESET AT THE PROPER SEPERATION DISTANCE BETWEEN THE DESIGN GRADE AND BOTTOM OF THE CONDUCTOR, PER FCC REQUIREMENTS. AFTER GRADING IS COMPLETED. ANCHORS/FOOTINGS SHALL REMAIN INPLACE AND BE PROTECTED FROM SOIL FILL AS DIRECTED BY THE ENGINEER.
2. CONTRACTOR MUST COORDINATE WITH RADIO TOWER OWNER PRIOR TO DE-ENERGIZING THE POWER LINE TO RESET THE LINE ELEVATION.
3. RADIO TOWER DRAIN PIPE SHALL BE PLACED PRIOR TO COVER OPERATIONS TO REDUCE TRENCHING WORK.
4. DISCHARGE FROM BASIN WILL BE CONVEYED TO THE CITY'S STORM DRAIN MANHOLE (MH 809) VIA AN UNDERGROUND PIPE. MANHOLE 809 IS LOCATED AT THE INTERSECTION OF A STREET AND 28TH STREET.

LEGEND

PROPERTY BOUNDARY	EXISTING MONUMENT WELL
PROPOSED FINAL GRADES	EXISTING TOWER ANCHOR
EXISTING CONTOUR	EXISTING POLE
EXISTING SPOT ELEVATION	EXISTING FENCE
EXISTING POWER POLE	V-DITCH AND DRAINAGE DIRECTION
EXISTING CONTROL POINT (BM1 N 1976715.93 E 6713442.64 42.35)	UNDERGROUND BASIN DISCHARGE PIPE
	PERMANENT SETTLEMENT MONUMENT
	PROPOSED FENCE

SURVEY NOTE

THE BASE TOPOGRAPHIC MAP USED FOR THIS WORK WAS PROVIDED TO MOBLL-MARTIN-SELF BY HARDING LAWSON ASSOCIATES IN ELECTRONIC FILE MEDIA. THE MAPPING WAS PREPARED BY TOPOGRAPHIC SURVEYS, INC., FOR THE CITY OF SACRAMENTO. DATE OF AERIAL PHOTOGRAPHY WAS JUNE 23, 1995. THE BASIS FOR HORIZONTAL AND VERTICAL CONTROL IS UNKNOWN.

SOURCE: Drawing 3, 29-Acre Final Landfill Closure, Dellar Property, Sacramento, CA Revision 2/28/2010, SCS Engineers

KLEINFELDER
Bright People. Right Solutions.

PROJECT NO.	116081	**CLOSURE FIELD INVESTIGATION**
DRAWN:	01/24/2011	
DRAWN BY:	R. Hills	
CHECKED BY:	T. Crancet	DELLAR LANDFILL SACRAMENTO, CALIFORNIA
FILE NAME:	116081_1.dwg	

PLATE 1

ATTACHMENT B

Limitations

KLEINFELDER
Bright People. Right Solutions.

LIMITATIONS

This work was performed in a manner consistent with that level of care and skill ordinarily exercised by other members of Kleinfelder's profession practicing in the same locality, under similar conditions and at the date the services are provided. Our conclusions, opinions and recommendations are based on a limited number of observations and data. It is possible that conditions could vary between or beyond the data evaluated. Kleinfelder makes no other representation, guarantee or warranty, express or implied, regarding the services, communication (oral or written), report, opinion, or instrument of service provided.

This report may be used only by the Client and the registered design professional in responsible charge and only for the purposes stated for this specific engagement within a reasonable time from its issuance, but in no event later than two (2) years from the date of the report.

The work performed was based on project information provided by the Client. If the Client does not retain Kleinfelder to review any plans and specifications, including any revisions or modifications to the plans and specifications, Kleinfelder assumes no responsibility for the suitability of our recommendations. In addition, if there are any changes in the field to the plans and specifications, the Client must obtain written approval from Kleinfelder's engineer that such changes do not affect our recommendations. Failure to do so will vitiate Kleinfelder's recommendations.